

PDG5

MODELING THE IMPACT OF A NEW ORAL ANTI-DIABETIC TREATMENT ON DIABETES COMPLICATION COSTS IN FRANCE

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OBJECTIVE: A cost-effectiveness analysis was conducted to compare the long-term clinical and economic benefits of nateglinide, a new oral antidiabetic drug (OAD), plus metformin with metformin plus other OAD and with metformin alone in patients with type 2 diabetes whose glycaemia is not controlled with metformin monotherapy.

METHODS: The health status of a cohort of 10,000 type 2 diabetic patients at risk of developing microvascular and macrovascular complications was simulated by a Markov model, tracking patient evolution over 30 years in one year periods. The risk of microvascular complications was based on published longitudinal studies. A Weibull model predicted the incidence of macrovascular complications depending on the level of glycemic control (measured both in terms of HbA1c level and postprandial glucose) and other patient characteristics. Costs of complications were assessed as event costs covering the acute and first-year management of the complication and state costs, which occur in years after the event. The primary outcome measure was the cost per Life Year Saved (LYS). The analysis was conducted from a health-care-payer perspective. Costs were discounted by 5% per year.

RESULTS: Type 2 diabetic patients taking nateglinide plus metformin would live from 0.11 to 0.39 years more than patients taking metformin plus OAD or metformin alone. The total costs over the entire time horizon ranged from 18,020 Euros for metformin alone to 20,694 Euros for metformin plus nateglinide. The resulting cost-effectiveness ratios (from 6,234 to 11,360 Euros per LYS) with nateglinide are well within what is considered as cost-effective care. In the sensitivity analysis, the impact of the observed variation was moderate or in favour of nateglinide plus metformin.

CONCLUSION: Nateglinide in combination with metformin is likely to be a cost-effective investment in type 2 diabetic patients inadequately controlled with metformin alone.

PDG6

COST-EFFECTIVENESS OF PIOGLITAZONE (ACTOS®, TAKEDA) IN THE MANAGEMENT OF TYPE 2 DIABETES MELLITUS IN SWEDEN

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OBJECTIVE: To assess the cost-effectiveness of pioglitazone (PIO) in combination therapy versus usual care for patients with type2 diabetes in Sweden.

METHODS: A published, validated model for type 1 diabetes mellitus developed by the Institute of Medical Informatics and Biostatistics was adapted to simulate long-term (until death) management, health outcomes, resource utilisation and treatment costs of patients with type2 diabetes. The model accounts for most complications occurring in diabetes patients: nephropathy, retinopathy, acute myocardial infarction, angina pectoris, stroke and amputation. The analysis was done from third-party-payer perspective and costs figured relative to the year 2000. A 3% discount rate was applied to costs and outcomes and sensitivity analysis was performed to test the results.

RESULTS: PIO in combination with metformin (MF) was associated with longer life expectancy (15.6 years) than sulphonylureas (SU)/MF (14.9) or rosiglitazone (RSG) 8 mg/MF (15.5). The same applied for PIO 15 mg/SU (15.5 years) with a greater life expectancy than MF/SU (15.0) and RSG 4 mg/SU (15.3). Furthermore, PIO 30 mg/MF, PIO 30 mg/SU, PIO 15 mg/SU were associated with the lowest number of serious complications. For every 33 patients treated with PIO 30 mg/MF instead of SU/MF, one death was avoided. The higher expense of the PIO combination was offset in some, but not all scenarios, by a reduction in incidence of complications. The incremental undiscounted cost per life year gained of PIO 30 mg/MF relative to SU/MF and RSG 8 mg/MF was respectively 86,440 Sweden Kronor (SEK) and 123,313 SEK. After discounting both costs and life years at 3%, the above becomes 146,196 SEK and 148,561 SEK, respectively. Finally, after discounting, PIO 15 mg/SU versus MF/SU or RSG 4 mg/SU was associated with an incremental cost per life year gained of 123,029 SEK and 42,401 SEK, respectively.

CONCLUSION: This model suggests that combined treatments with pioglitazone improve survival and reduce complications in patients with type2 diabetes and represent a cost-effective choice in Sweden when judged against other therapeutic interventions. Nonetheless, the results of modelling exercises such as this should be confirmed by long-term observational studies.

PDG7

THE LIFETIME DIRECT MEDICAL COSTS OF MANAGING DIABETES AND ITS COMPLICATIONS IN FRANCE

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OBJECTIVES: Several studies have assessed the cost of micro- and macrovascular complications of diabetes. The objective of this study was to examine the components of the lifetime costs of diabetes in France.